

The book is one of the most scientific and trustworthy that has appeared on the market in recent years and while it advocates no new departure from the realms of organic neurology, it sheds much new light on many obscure facts concerning cerebral and spinal localization, especially as viewed from the angle of the doctrine of evolution. The authors trace physiologic processes produced by various physical stimuli from their origin at the periphery of the nervous system to the moment when they excite sensation.

The leading principles which have emerged from these researches are:

1. When any level of activity is attacked the most complex functions, and those which have appeared most recently in the scheme of human development, are the first to suffer.

2. The negative manifestations of a lesion appear in terms of the effected level, and a negative lesion produces positive results by releasing activities normally held under control by the functions of the affected level.

3. The functions of the central nervous system have been slowly evolved by a continuous process of development.

4. Integration of function within the nervous system is based on a struggle for expression between many potentially difficult physiological activities.

5. Primitive sensation was probably a condition of "awareness" endowed with but slight qualitative or discriminative characters.

The book may be considered as a classic of its kind and is a valuable addition to the library of the neurologist. F. H. L.

VENEREAL CLINIC. By ERNEST R. T. CLARKSON, M.R.C.S., London Hospital. Pp. 456; 35 illustrations, 20 plates (10 in color). New York: William Wood & Company, 1922.

In the wealth of books of this character, at present on the market, it hardly seems possible to expect anything new. Yet the author has given it to us, not essentially in the material contents, but in the presentation of his subject. Covering only the two diseases, gonorrhea and syphilis, he has presented the subject-matter: (1) As seen in their most frequent manifestations; (2) as though demonstrating individual cases at a clinic; (3) by closely correlating the symptoms with the known pathology and reasons for certain treatments, and enhancing the value of the whole by appending a splendid series of chapters on the sociology and administration of clinics and city health measures. He has written for the "elementary student" and the practitioner taking charge of a venereal clinic: to both we take pleasure in warmly recommending the book, judging it to be safe in its advice, clear in its presentation of the subject and easy of ready reference, with many additional features not found elsewhere.

A. R.

# PROGRESS OF MEDICAL SCIENCE

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## MEDICINE

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**Megacaryocytes in Circulation.**—MINOT (*Jour. Exper. Med.*, 1922, 36, 1) reports the finding of megacaryocytes (megalocaryocytes) in the peripheral circulation of many cases of myelogenous leukemia and in two cases of polycythemia vera, one of lobar pneumonia, one of Hodgkin's disease, and one of sepsis. In all of these cases, except some of the myelogenous leukemias, the blood showed increase of platelets with bits of megacaryocyte cytoplasm and often many immature cells of both the red and white series. The author concludes that the presence of megacaryocytes in the peripheral circulation is indicative of a bone-marrow under intense strain.

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**The Blood Sugar After Removal of the Liver.**—MANN AND MAGRATH (*Arch. Int. Med.*, 1922, 30, 73) report their observations on the blood sugar in hepatectomized dogs as an interesting phase of their studies on the physiology of the liver. The technic of the removal of the liver includes, first, a reverse Eck fistula and, at the second operation, the ligation of the portal vein at its entrance into the liver, the third operation allowing the removal of the entire liver. Following the operation the animal remains "normal" for three to eight hours and then passes through a series of symptoms—muscular weakness, loss of reflexes, flaccidity, return and exaggeration of reflexes, muscular twitchings, convulsions and death. The average animal dies within two hours after the appearance of the first signs of muscular weakness. The authors point out that the blood sugar begins to fall immediately after operation and its fall to a certain point (0.06—0.04 per cent) is always

accompanied by the onset of the symptoms described. At the time of death the blood sugar rarely exceeded 0.03 per cent. The glycogen content of the muscle decreases coincidentally. Similar studies were made on animals of different species—dog, goose, turtle and fish. In each species investigated removal of the liver produced a marked decrease in blood sugar. The relationship, they conclude, of the decrease in blood sugar and the development of the characteristic symptoms seems to be one of cause and effect.

**Capillary Blood-pressure in Arterial Hypertension.**—BOAS AND FRANT (*Arch. Int. Med.*, 1922, 30, 40) find that hypertension cases fall into two groups, (a) those with normal capillary blood-pressures, and (b) those with high capillary blood-pressures (21–70 mm. of Hg). They agree with Kylin that it is possible that the patients who exhibit high capillary pressures are suffering from a general capillary disease with a glomerulonephritis as one of the manifestations, although they point out that it is difficult to see how disease of the capillaries themselves would lead to a high capillary pressure, particularly when arteriosclerosis of itself does not lead to a high arterial pressure. In cases of essential hypertension the capillary pressure is low. They find that in patients with high capillary pressure the variation in different capillaries of the same patient is twice as great (36.6 mm. Hg) as in patients with normal capillary pressure (18.0 mm. Hg). They also conclude that the variability of the capillary pressure depends on physiologic as well as anatomic moments.

**Studies on Blood Cholesterol in Syphilis.**—McFARLAND, (*Arch. Dermat. and Syph.*, 1922, 6, 39) has studied the cholesterol content of the blood in a number of syphilitic patients and finds that in general the values are medium and low rather than high. The cholesterol determinations, done by the Bloor method, are, with the possible exception of cases of cerebrospinal syphilis, about the same as in a similar series of non-syphilitic individuals. In cerebrospinal syphilis the percentage of high values was 33.3. The possible relationship between the cholesterol values and the Wassermann reaction, the type of syphilis, and the clinical response to treatment were also studied with negative results. It is of particular interest to note that the positive Wassermann reaction depends in no way on the concentration of cholesterol in the blood. The blood of patients under treatment was also studied with the idea of determining the possible effect of arsphenamine. Here again no significant variations were noted.

**The Role of Agglutination in the Immediate Toxic Effects of Arsphenamine.**—OLIVER and YAMADA (*Jour. Pharm. and Exper. Therap.*, 1922, 19, 393) in a series of interesting experiments on animals demonstrated that when single large lethal doses of arsphenamine are given, a characteristic anatomical finding is present in animals at autopsy. This consisted in marked agglutination of the blood from the inferior vena cava, which is definitely shown not to depend on coagulation; as a result of this phenomenon, embolism of small vessels and capillaries throughout practically all the organs and particularly in the lungs. They were also able to demonstrate that rabbits died acutely from the intravenous injections of red cells previously agglutinated by arsphen-

amine in vitro, in which the arsphenamine content was much too low to have caused symptoms. The clinical and anatomical phenomena in these animals were precisely the same as in animals killed with a single large dose of the drug. Similar reactions of a less extent occurred after large sublethal doses of arsphenamine and after small repeated doses. They call attention to the fact that sudden death in the animal depends on the almost complete stoppage of the pulmonary capillaries by embolism and that this in turn causes an acute dilatation of the right ventricle. They suggest that certain of the similar reactions observed in human beings may be due to the intravascular agglutination of the red cells and the consequent multiple embolism.

**A Serological Study of Hemolytic Streptococci.**—GORDON (*Brit. Med. Jour.*, 1921, 1, 632) has studied by means of agglutination and absorption tests hemolytic streptococci derived from a variety of sources with special reference to the organism concerned in scarlet fever. It is found that of a large group of streptococci, 93 per cent fell into three main serological types. Of special interest was the fact that in the scarlet fever cases all but two strains were identical and these two strains were different from those obtained in ordinary pyogenic conditions. These observations confirm the work of Bliss and of Tunnicliff and raise the question of whether the streptococcus may not really be the actual cause of scarlet fever. Its constant presence even early in the disease, and the fact that if one eliminates the streptococcus and its associated rash very little remains from which to make a diagnosis, are very suggestive.

**Remote Prognosis in War Nephritis.**—DYKE (*Quart. Jour. Med.*, 1922, 59, 207) analyzes the present condition of 100 patients whom he observed in the acute stage of war nephritis four and a half years ago. All had been typical cases of acute nephritis with edema, albuminuria, and hematuria. His observations have a significant bearing on the problem of nephritis in civil life. Of 100 patients followed, 3 are dead, 1 is a complete invalid, 17 are partial invalids with pensions of 20 to 60 per cent, and 79 are "fit." Most of these now found to be fit for duty were completely recovered within twelve months of the onset of the acute disease. Most of those not fully recovered within twelve months have persistently shown signs of nephritis, which by this time is of the chronic type. Eleven patients recovered more slowly and although invalid at one year after the onset have since so far recovered as to be capable of full duty. No symptom or sign (including uremia) occurring during the acute stage of the disease was found to be a reliable guide to its remote prognosis.

**Radium Emanations in Exophthalmic Goiter.**—TERRY (*Jour. Amer. Med. Assn.*, 1922, 79, 1) used radium emanations in extremely toxic cases of exophthalmic goiter in an attempt to convert them into better risks for surgical procedures. The emanation tubes were introduced into the gland under local anesthesia. Two patients with high metabolic rates recovered completely after radium alone. Other cases were so far improved as to be favorable subjects for operation. The adhesions which are reported to follow preparatory treatment with the roentgen-ray were not observed in patients treated with radium.